

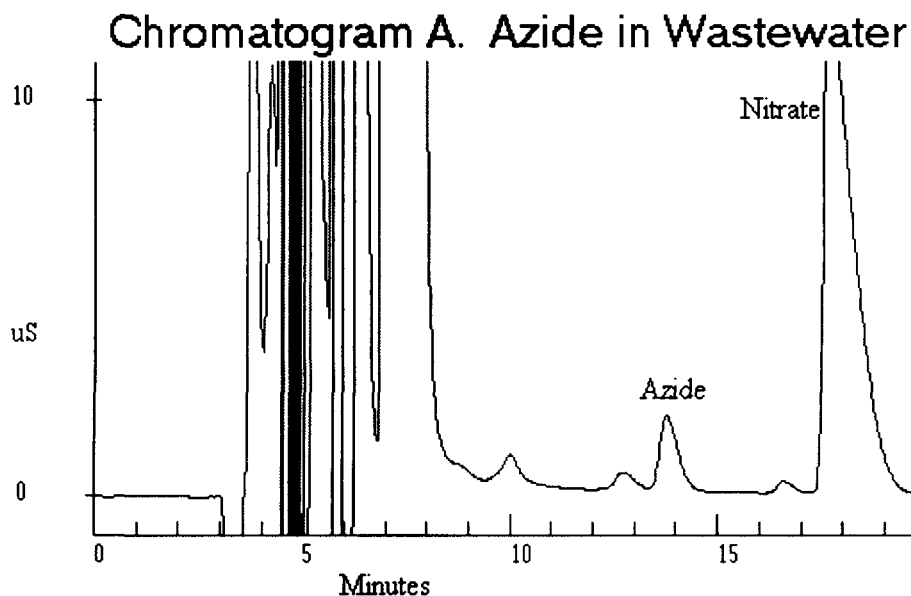
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WCAS**Azide and Perchlorate Analysis**

azide, perchlorate, analysis by ion chromatography

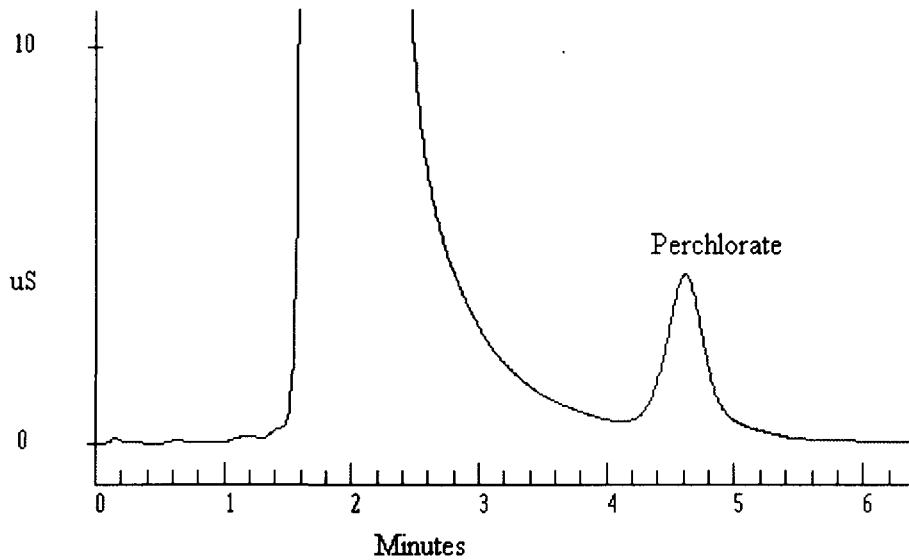
Salts of **azide** and **perchlorate** are used in the explosives and pyrotechnics industry. Sodium azide is a propellant in automotive air bags, and also has applications as a preservative, and in agricultural pest control. Perchlorates are strong oxidants, one of the primary oxidants used in solid rocket fuel. The automotive, agricultural, biomedical, and explosives industries all may have an interest in sensitive assays for one or both of these anions.

The assay for **azide** was recently improved by using **ion chromatography** on a Dionex AS-10 Ion Exchange column and a sodium hydroxide eluent. We have seen no interference from acetate, bromide, chloride, fluoride nitrate, nitrite, perchlorate, phosphate and sulfate in this assay. Nitrate has been a problem in past assays, but is easily separated from azide in this assay. This figure shows a client's water sample spiked with 1 ppm azide. The detection limit is 20 ppb.



Perchlorate binds tightly to many ion exchange columns. A mobile phase with an organic base and 40% acetonitrile is used to elute this ion from a Dionex NS-1 column. Most anions are not retained in this system. The figure shows an actual sample spiked with 5 ppm perchlorate. The detection limit is 0.1 ppm.

Chromatogram B. 5 ppm Perchlorate in Wastewater

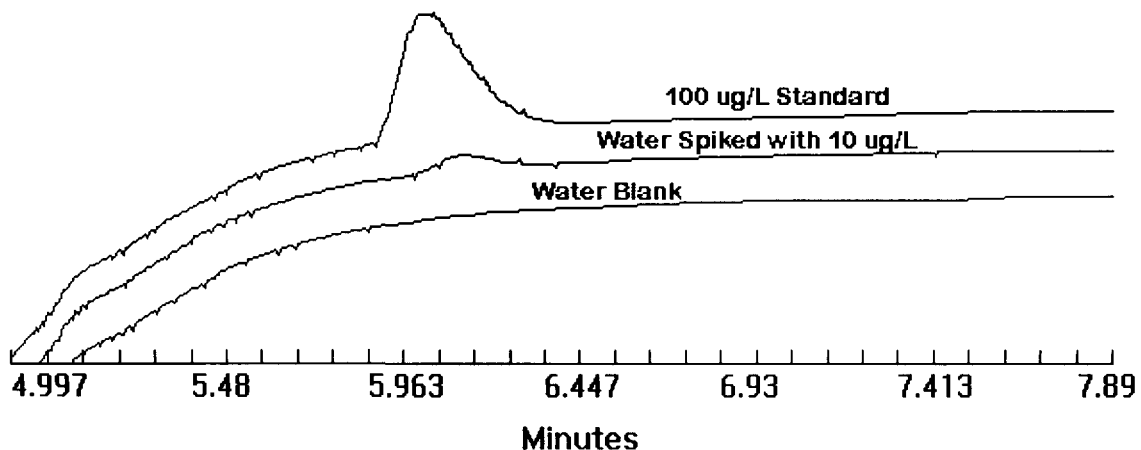


WCAS can perform anion assays on a wide variety of matrices. Call us about your particular application.

An Update -Perchlorate in the Environment

Perchlorate has become an important environmental contaminant. A by-product of the explosive industry, it has been detected in groundwater in numerous locales. WCAS has been analyzing for perchlorate using ion chromatography (IC) for years to a detection limit of 20 ppb. The California Department of Health Services (DHS), however, is now asking labs to detect perchlorate down to four ppb or less. WCAS is currently working on extending our method to these lower levels. Using a concentrator column, we can now achieve a method detection limit of 3 ug/L.

Perchlorate Trace Analysis



Although DHS does not currently certify laboratories for perchlorate analysis, it is developing a list of labs approved to determine perchlorate. Once we are satisfied that the methodology lowering the detection limit to the required level is rugged, DHS will send us a performance evaluation sample. Upon successful analysis of this sample, WCAS will be added to that list. We will keep you updated as to the status of this process. Feel free to give us a call if you have any questions regarding perchlorate analysis. [For a quotation.....](#)

Home

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